New Product Concept Research Report
VivaciousMe

Wendy Ferguson
WDF5@Georgetown.edu
# TABLE OF CONTENTS

- New Product Concept Research Report Summary 3
- State of the Wireless Healthcare Industry 4
- The Healthy Living Company 4

Research Questions 5
- Research Objectives 5
- Research Design / Data Collection 5

Concepts of Interest 6
- Conceptual Definitions 6
- Operational Definitions 6
- Conceptual Definition / Operational Metric Gap 7

Research Design / Statistical Methodologies 8

Analysis / Data Capture 9
- Analysis / Survey Frequency 9
- Analysis / Top-2 Box Frequency 9
- Analysis / Correlations 10
  - Consumer Demand to Purchase Intent Correlation Matrix 10
  - Consumer Demand to Product Features Correlation Matrix 10
  - Purchase Intent to Product Features Correlation Matrix 11

Analysis / Bicollinearity between Purchase Intent and Individual Product Features 11
- Addressing Bicollinearity 11

Analysis / Defining the Variables 12
- Analysis / Dependent Variable 12
- Analysis / Independent Variables 13
- Analysis / Control Variables 13

Analysis / OLS Regression Model 13
- Unstandardized Regression Output 13
- Standardized Regression Output 13

Analysis / Hypotheses 13

Analysis / OLS Regression Results 14
- Optimized Regression Models 14
- Optimized Unstandardized Coefficient Analysis 15
- Optimized Standardized Coefficient Analysis 16

Does the Data Support the Hypotheses? 18

Final Recommendation 19
The purpose of this report is to provide senior management at The Healthy Living Company with accurate information and reliable direction on a key strategic resource allocation decision – “Whether or not to invest financial and intellectual capital against VivaciousMe, the first customizable, mobile biomedical device designed to optimize an individual’s biological resource utilization decision-making process.” The academic case has been made for its potential, but now comes the moment where ideas translate into quantifiable decision-making variables. Senior management needs to decide whether or not to launch this new product and, simultaneously, it needs to produce a prioritized list of product features for its product designers to begin working on a prototype. They need a proven measure of consumer demand and accurate weightings attached to each potential product feature. Before committing to the commercialization of VivaciousMe, senior management at The Healthy Living Company must address these information gaps, and thus commissioned a new product concept research project.

The proposed market research project will address both the descriptive research needed to measure the proportion of the population expected to use the new product (product demand) and the causal research needed to define the cause and effect relationship between the various product features available. Combining these approaches will allow senior management to accomplish its two research objectives: (1) Produce a quantifiable measure of consumer demand and (2) Define the causal relationship between potential new product feature and purchase intent.

The Healthy Living Company is committed to helping its consumers meet their daily wellness goals. And, it is their assertion that VivaciousMe has the blueprint necessary to break barriers and reframe the healthcare debate. Empowering consumers with the ability to make healthy energy based decisions will eliminate the primary disease process, the inadequate commitment of energy reserves and utilization. Better Energy Decisions = Better Life Decisions.

The goal of this research is to validate The Healthy Living Company’s declaration of future opportunity by collaborating with the consumers themselves. Potential users will quantify and validate the market opportunity of VivaciousMe and will play a major role in designing the product to fit their needs. Using a statistical approach to problem solving, The Healthy Living Company will not only solve its information gap, but also invite its future consumers to collaboratively build a product for sustained mutual vitality.
New Product Concept Research Report
VivaciousMe

Report Detail

State of the Wireless Healthcare Industry
We are at the intersection of health and computing, design and service. It is the perfect time to reframe the healthcare industry toward self-management. Patients are posed to become designers; architects of their personal wellness and healthcare providers are prepared to evolve into co-producers and coaches.

Advances in communication technologies and nanotechnology now offer a democratization of healthcare, putting individual wellness management tools into the hands of the individual. By mimicking existing biomechanics in the body and by quantifying and displaying relevant information, an individual is now able to make informed decisions and choices that promote and demand coherency between the mind and the body. By leveraging the sophistication of biomedical sensors, individuals can topologically transfer self-determination of personal health from institutions and doctors to wearable devices that permit evolved immediate, and most importantly, informed decision-making.

As over-committed individuals seeking to restore personal balance, vitality and emotional wellness, sales of personal wellness tools accelerate. The population is united in their desire to relieve stress, abolish fatigue and improve mental clarity; it is a core market portrayed by lifestyles and a shared passion for life. It is a collection of individuals committed to improving their daily physical, mental and emotional states, a core group of people seeking coherence and competent in their personal wellness decision-making capacity. Driven by the belief that there is a solution to every problem, these consumers seek autonomy, competency and relatedness in their daily lives, and more specifically, in their ability to feel confident in their lifestyle choices.

We are at the intersection of opportunity, the development and launch of personal wellness tools that bridge the accessibility and affordability of the consumer products industry with the distinction and prominence of the pharmaceutical profession; tools that promotes self-determination and sustained positive behavioral change, while refreshing the healthcare industry with improved efficiency and renewed dedication. We are entering a new epoch, a systematic restructuring of the personal wellness industry. Healthcare is now, literally, in the hands of the patient.

The Healthy Living Company
The Healthy Living Company is a U.S. based company committed to providing innovative personal wellness products and services of superior quality and value to the lives of the world’s consumers. A leader in the wireless healthcare market, The Healthy Living Company is well positioned to leverage the technological synergies occurring in the industry. Its team of biomedical engineers has recently presented senior management with a new product discovery, a mobile distributive biomedical device that can measure an individual’s physiological energy capacity through skin conductance. Internally named VivaciousMe, scientists are enthusiastic about the product’s ability to support humans in their healthy energy decisions, and ultimately in the quality of the lives.
However, having the capacity to manufacture something does not automatically produce a market and knowing their lives can be improved by wearing a biomedical device does not instantly translate into market share. Standing at its own crossroads, The Healthy Living Company must decide whether or not to invest financial and intellectual capital against this new product concept.

**Research Questions.**

There is a strong social-cultural case to be made for the launch of VivaciousMe, a constellation of inter-related consumer trends form a vision, a consumer-needs driven opportunity for a portable, wearable, monitoring device that provides relevant, on-the-go information to assist consumers in their every day activities. The opportunity to support the consumer’s desire for improved physical and emotional health while offering them the convenience, control and independence to help them make informed up-to-the-minute decisions is here, and VivaciousMe is designed to be the mobile informant that helps consumer’s enjoy life to the fullest.

But, while the academic case has been made for its potential and the technological viability confirmed, now comes the moment where theory becomes practice and ideas translate into quantifiable decision-making variables. Senior management must decide whether or not to launch this new product and, in doing so, commit significant financial and intellectual capital toward its commercialization. They need a proven measure of consumer demand and a prioritized list of product features to actuate their prototype. Before resolving this investment allocation decision, senior management at The Healthy Living Company must address their information gaps, and construct a market research project to inform their decision-making.

**Research Objective**

The proposed market research project must address both the descriptive research needed to measure the proportion of the population expected to use the new product (product demand) and the causal research needed to define the cause and effect relationship between the various product features available. Combining these approaches will allow senior management to accomplish its two research objectives: (1) Produce a quantifiable measure of consumer demand and (2) Define and prioritize the causal relationship between potential new product features and purchase intent.

The Healthy Living Company is committed to helping its consumers meet their daily wellness goals. And, it is their assertion that VivaciousMe has the blueprint necessary to break barriers and reframe the healthcare debate. Empowering consumers with the ability to make healthy energy based decisions will eliminate the primary disease process, the inadequate commitment of energy reserves and utilization. Better Energy Decisions = Better Life Decisions.

The goal of this research is to validate The Healthy Living Company’s declaration of future opportunity by collaborating with the consumers themselves. Potential users will quantify and validate the market opportunity of VivaciousMe and will play a major role in designing the product to fit their needs. Using a statistical approach to problem solving, The Healthy Living Company will not only solve its information gap, but also invite its future consumers to collaboratively build a product for sustained mutual vitality.

**Research Design / Data Collection**

Identifying the objectives and the information required to answer the research questions, the knowledge needs at The Healthy Living Company can best be addressed through a well-crafted accurate survey where the questions presented capture the necessary data in a reliable and valid form. By addressing the wording style, type and specific question sequence upfront and making sure the questionnaire is engaging and brief, a well-designed online survey was developed with the end-used in mind.
As each survey question had a unique purpose, each one was built on the belief that they be brief, objective, simple and specific. Moreover, in support of each question’s purpose the choice of question type was deliberate. Closed-ended multichotomous ordinal questions were used to measure future demand and a matrix of likert scales was used to reveal the motivating attitudes behind new product features. Demographic information was acquired through straightforward multiple-choice options, with the exception of respondent’s age where an open-ended text box was used to prompt the reply.

As will be highlighted in the analysis section of this report, question sequencing and precise research concepts are vital to delivering focused truthful data points. The general guideline of survey development was followed in this instance: there was an opening question to calmly and warmly invite the user to continue the survey, a series of product specific questions, each one building on a cumulative familiarity with the topic, with a concluding cluster of demographic information requests.

The survey layout began with a welcome message and a brief introduction into the survey’s purpose. Importantly, the first question reminded respondents that their participation was voluntary and they had the option to discontinue involvement at any time. Similar questions were then grouped together and product images provided where appropriate. The very last page respectfully thanked each individual for his or her time and submission.

As a primary data source tasked with collecting descriptive and causal data inputs, the online questionnaire was launched on November 16, 2010, and with 156 responses, concluded on November 26, 2010 (SurveyMonkey link: http://www.surveymonkey.com/MySurveys.aspx). What this type of survey achieved in speed and flexibility it lacks in sampling frame and bias (i.e., convenience and snowball sample). Managers using this data to make key strategic decisions must acknowledge its limitations.

**Concepts of Interest**

The two research questions and objectives provide for a short list of concepts to be defined and measured:

- Consumer Demand
- Purchase Intent
- New Product Features

**Conceptual Definitions:**

- **Consumer demand** is defined as an individual’s plan to spend money on a VivaciousMe.
- **Purchase Intent** is defined as an individual’s product preference and intrinsic motivation to choose VivaciousMe when searching for a personal wellness tool. It is identified as a “market variable” to consumer demand.
- **New Product Features** are defined as the solution to a consumer’s need or problem. Features provide benefits to consumers, but cost money to include so careful cost/benefit analyses must be done to determine if the feature is economically feasible.

**Operational Definitions:**

Consumer Demand is captured in a standard 5-point ordinal scale where consumers are asked to rate “How likely” they are to purchase a product like VivaciousMe. With the scale ranging from “Definitely Would Buy” to “Definitively Would Not Buy,” the plan was to use the standard “Top 2 Box” score to determine the consumer demand for VivaciousMe. This technique is commonly used in marketing research surveys and was expected to provide a reliable descriptive data point.
for future causal research analysis. Unfortunately, as will be demonstrated in the Analysis section, the placement of this question too early in the survey and its focus on actual purchase behavior versus purchase intent led many respondents to lower their effective response.

**Consumer Demand - Question #3:**

“How likely are you to purchase a product like this that promotes wellness through self-knowledge?”

Purchase Intent was identified and accurately observed based on a purposely-constructed question that employed the proven theory of Self Determination. Using targeted words like “self knowledge,” “competence” and “capability” the question mimics the macro theory of human motivation to initiate and maintain proactive behavioral habits. And, in doing so successfully measures purchase intent for VivaciousMe. Employing a 5-point scale ranging from “Strongly Agree” to “Strongly Disagree,” respondents were asked to rank their level of agreement / preference. This operational definition had the added benefit of coming much later in the survey when participants were more aware of the product opportunity.

**Purchase Intent - Question #8:**

“How strongly do you agree or disagree with the following statement? Personal wellness tools improve self-knowledge and enhance a person’s competence and capability in proactively managing their health.”

Product Features were empirically defined using a straightforward list of options and a closed-ended 4-point ordinal scale matrix. In this scenario, respondent’s were asked to rate their level of interest for ten independent product feature; each time seeking a response ranging from “Very Interested” to “Not Interested.”

**Product Features - Question #6**

“Reviewing the VivaciousMe concept, how interested are you in the following product features?”

**Product Features:** Effortless operation, comfortable enough for daily use, understated wearability, easy to read data, immediate access to metric output, portability / mobility, washable band, accompanying software to manage personal metrics, invitation to on-line social support and access to life coaches.

Visual images of a VivaciousMe prototype were attached to each of these three operational executions.

**Conceptual Definition / Operational Metric Gap**

Bridging the gap between conceptual definitions and their corresponding operational metric can be difficult, and the dynamics of a new product concept testing add to that dissonance. By definition, new product concept tests are ambiguous and lend themselves to ambiguity. And, while the advantages of conducting a preliminary screening of new ideas, a researcher must be aware of the challenges:

- Respondents may find reacting to a new concept difficult, particularly within a learning period
- The stimulus is very brief and many variables will change by the time the product is marketed

---

• Certain attributes cannot be measured in a concept test, e.g., the texture of a product, the smell of a perfume or the unforeseen trend of the next quarter
• But, perhaps the most troublesome aspect of a new product concept is the fact that it has just enough slippage between the conceptual and operational definitions to allow persistent product champions to argue successfully against its findings

The important point here is to acknowledge the risk ahead of time and manage the process, analysis and interpretation accordingly.

No matter how carefully the process is managed, the data collected is only as accurate as the responses that are submitted. And, respondents give inaccurate answers for a number of different reasons. This research project highlights the social desirability bias that often occurs when trying to measure socially responsible or personal wellness habits. Despite the anonymous nature of a web-based survey, individuals continue to want to manage the impression that they are projecting and often over-state their intentions / preferences. Whether it is conscious or subconsciously driven, the data is impacted.

This response bias is particularly important to this research project as it deals with the issue of personal wellness and an individual’s desire to proactively manage their health. Careful attention to individual responses is recommended when evaluating consumer demand and purchase intent and added precaution is suggested in the final “Go / No Go” decision on VivaciousMe.

One way this research attempts to minimize social desirability bias is through the use of a marker variable, Purchase Intent. Using a proven macro human motivation theory to construct the specific question and by removing the barrier of money, we are searching for an honest response to the participant’s interest in or future preference for a personal wellness tool like VivaciousMe.

Distinction and reliability are key attributes for our predictor and criterion variables, and parsimonious models are the goal. Yet, one of the key research objectives in this research project is to define and prioritize the causal relationship between potential new product features and purchase intent. As this study introduces ten independent new product features in one question, it introduces the risk of blurring the separation and transmission of respondent fatigue. On the other hand, this is vital information for the product designers and important to include.

Statistics offers us a way around complex puzzle: index creation. Assuming the question is well constructed and placed in an engaging spot in the survey, it should remain. The “clean-up” occurs in the data analysis portion of the project. Specifically, as will be demonstrated in the Analysis section of this paper, creating a single indicator to represent multiple variables is an informative and statistically credible way to achieve the ultimate goal: defining and prioritizing the predictive qualities of various product features on purchase intent.

**Research Design / Statistical Methodologies**
There are two research objectives in this study: (1) Produce a quantifiable measure of consumer demand and (2) Define and prioritize the causal relationship between potential new product features and purchase intent. We want to determine the baseline correlation between consumer demand and the new product concept for VivaciousMe and we want to produce a predictive causal equation for improving that baseline through the addition of various product features. So, we turn to Ordinary Least Squares Regression (OLS) for the solution.

A multiple regression correlation is one of the most versatile tools for marketing managers. An extension of correlation analysis and a tool equivalent to the analysis of variance, multiple
regression allows the researcher to correlate a set of independent (predictor) variables with a single dependent (criterion) variable. This specific statistical model will allow us to define the baseline correlation between consumer demand and the new product concept through the y-intercept value and provide a defined and prioritized equation for improving that potential through added product features through the unstandardized and standardized regression coefficients. OLS Regression is a sophisticated model that produces an actionable result, filling the information gap currently facing The Healthy Living Company.

**Analysis / Data Capture**
The first action taken was the capture and conversion of the raw data collected on SurveyMonkey to SPSS. Attention was paid to erroneous submissions / outliers and one question was immediately recoded in order to accurately reflect the participant’s responses (Q3: Do you own any of the following wellness tools? “0” = Do not own and “1” = Own).

With the Data View tab populated, the next step was to update the Variable View tab. Here the variables were named, the labels added, value labels completed and scales of measure defined.

**Analysis / Survey Frequency**
Now it was time to run the first Frequency Analysis on the entire survey and to examine each individual question’s frequency distribution. The missing variables were recorded and transformed and several new collapsed variables were produced for future use (e.g., age, ethnicity, level of education). As the researcher in charge, I also took another look at the scales. Throughout the survey we connected “Strong Agree” and “High Level of Interest” to #1, a high affinity to a low scale number. I decided not to flip the scales, but noted that future survey scales may be easier to understand if we associate high levels of affinity with larger numbers.

**Analysis / Top-2 Box Frequency**
With frequencies approved, a preliminary view of consumer demand and purchase intent was available. As is standard practice in marketing research, managers often turn to the combined Top-2 box scores to demonstrate consumer demand. By combining and comparing data from “Definitely Would Buy / Strongly Agree” and “Probably Would Buy / Agree,” marketing managers can get a sense of a product’s desirability. The caveat is that it is simply a frequency distribution, but it is often an early indicator of future results; and, as in the case of VivaciousMe, an early sign of data bias or error.

*Consumer Demand / Purchase Intent – Top-2 Box Frequency Analysis*
To review, there are two research objectives in this study: (1) Produce a quantifiable measure of consumer demand and (2) Define and prioritize the causal relationship between potential new product features and purchase intent. And, there is one marker variable, Purchase Intent. This variable was added for a variety of reasons, (1) to minimize social desirability bias, (2) to remove the money barrier from the equation and (3) to provide a secondary measure of consumer demand. What originally wasn’t planned, but turned out to be fortuitous, was the placement of the marker variable question in the survey; coming later in the session it appears to have captured a more informed set of responses.

What is causing such a discrepancy between two seemingly similar variables? Why is Consumer Demand so low? And, does that indicate an issue with the entire variable? The answer to this question was necessary before moving forward, so three Correlation Matrixes were produced: one correlating Consumer Demand to Purchase Intent, the second put Consumer Demand against the proposed product features and the last correlated Purchase Intent to the proposed product features. In the end, they all pointed to the same conclusion: the Consumer Demand variable is an unreliable statistic and hereafter Purchase Intent will be the Dependent Variable of choice, a “marker variable” to reflect purchase.

Analysis / Correlations

**Consumer Demand to Purchase Intent: Correlation Matrix**

<table>
<thead>
<tr>
<th></th>
<th>Consumer Demand</th>
<th>Purchase Intent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Demand</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pearson Correlation</strong></td>
<td>1</td>
<td>-.099</td>
</tr>
<tr>
<td><strong>Sig (2-tailed)</strong></td>
<td>.267</td>
<td></td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>151</td>
<td>128</td>
</tr>
<tr>
<td>Purchase Intent</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pearson Correlation</strong></td>
<td>-.099</td>
<td>1</td>
</tr>
<tr>
<td><strong>Sig (2-tailed)</strong></td>
<td>.267</td>
<td></td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>128</td>
<td>139</td>
</tr>
</tbody>
</table>

*Consumer Demand, “How likely are you to purchase a product like this that promotes wellness through self-knowledge?” Purchase Intent, “How strongly do you agree or disagree with the following statement. Personal wellness tools improve self-knowledge and enhance a person’s competence and capability in proactively managing their health?*

This analysis indicates a negative relationship between Consumer Demand and Purchase Intent, yet it’s also a statistically insignificant indicator.

**Consumer Demand to Product Features: Correlation Matrix**

<table>
<thead>
<tr>
<th></th>
<th>EO</th>
<th>C</th>
<th>UW</th>
<th>E to R</th>
<th>AMO</th>
<th>P/M</th>
<th>WB</th>
<th>Soft</th>
<th>OLS</th>
<th>LC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pearson's Correlation</strong></td>
<td>-.095</td>
<td>-.116</td>
<td>-.067</td>
<td>-.092</td>
<td>-.007</td>
<td>-.150</td>
<td>-.116</td>
<td>-.219</td>
<td>-.218</td>
<td>-.174</td>
</tr>
<tr>
<td><strong>Sig (2-tail)</strong></td>
<td>.283</td>
<td>.193</td>
<td>.459</td>
<td>.301</td>
<td>.942</td>
<td>.094</td>
<td>.194</td>
<td>.014</td>
<td>.017</td>
<td>.059</td>
</tr>
</tbody>
</table>


The Correlation Matrix relating Consumer Demand to the proposed Product Features further demonstrates the unreliability of the Consumer Demand variable. First the direction of all the product features is negatively associated with Consumer Demand and adding to the crisis, most of the relationships are statistically insignificant.
The Correlation Matrix between Purchase Intent and the proposed Product Features, on the other hand, reports that Purchase Intent is a reliable variable and statistically significant across all 10 features. Therefore, going forward Purchase Intent will be the new Dependent Variable of analysis and the Research Objectives amended to account for the change.

### Purchase Intent to Product Features: Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>EO</th>
<th>C</th>
<th>UW</th>
<th>E to R</th>
<th>AMO</th>
<th>P/M</th>
<th>WB</th>
<th>Soft</th>
<th>OLS</th>
<th>LC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pearson's</strong></td>
<td>0.292</td>
<td>0.282</td>
<td>0.304</td>
<td>0.311</td>
<td>0.144</td>
<td>0.223</td>
<td>0.228</td>
<td>0.325</td>
<td>0.248</td>
<td>0.255</td>
</tr>
<tr>
<td><strong>Correlation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sig (2-tail)</strong></td>
<td>0.000</td>
<td>0.001</td>
<td>0.000</td>
<td>0.000</td>
<td>0.096</td>
<td>0.009</td>
<td>0.007</td>
<td>0.000</td>
<td>0.005</td>
<td>0.004</td>
</tr>
</tbody>
</table>


This adjustment is not serious as Purchase Intent was always intended to be a “marker variable” for Consumer Demand, but it does provide insight into future new product concept studies. For example, questions regarding demand and purchase intent need to come later in the survey, after the participant gets a better idea of the concept. Or, perhaps a questionnaire isn’t the best technique for capturing consumer demand at retail? A simulated test market or actual market test may be the best methodology for that research question.

### Analysis / Bicollinearity between Purchase Intent and Individual Product Features

The Correlation Matrix between Purchase Intent and Product Features also demonstrated the ubiquitous bicollinearity between the new dependent variable and the predictive independent variables. Bicollinearity, a precursor to Multicollinearity, is a “serious interpretation threat to the predictor variables as their highly correlated contributions make it difficult, if not impossible, to determine their separate effects on the dependent variable.” Given the research objectives of this report and the importance of reliable predictive independent variables, a decision was made to address the issue now, prior to the final approval of independent variables, endorsed hypotheses, projected multiple regression model and, ultimately the OLS Regression analysis. The goal was to handle the bicollinearity issue before it corrupted future work.

### Addressing Bicollinearity

Two options were tested and one found to be a superior antidote. The first option was to run an OLS Regression analysis using Purchase Intent as the dependent variable and all of the proposed product features as the independent variables with a separate block of demographic control variables (defined as: sex, age, level of education and household income). But, despite reporting an adjusted r-square of .209 for product attributes and .246 for demographics and achieving a statistically significant model (Block 1 = p<.001 and Block 2 = p<.000) with a Durbin-Watson of 1.63, only one product feature (on-line social network support) and one demographic characteristic (level of education) was found to be statistically significant.

The second option proved to be successful and was a pivotal addition to the final analysis. Knowing that creating a single indicator to represent several multiple variables was an informative and statistically credible way to achieve the same goal, defining and prioritizing the predicative qualities of various product features on purchase intent, a factor analysis was run to guide the construction of three new product feature scales. As shown on the SPSS output under “rotated component matrix,” three groupings of product features emerged.

---

• A Functional Group (Functional): comfortable enough for daily use, easy to read data, effortless operation, understated wearability, portability / mobility and a washable band
• An Offline2 Group (Offline2): web-based social support network and access to life coaches
• And a Thinking Group (Thinking): immediate access to metric output and personal software to manage metric tracking and evaluation

Armed with this information, a reliability test was conducted to verify the predictive strength of the underlying concept, i.e., how accurate / reliable were these new scales?

**Cronbach’s Alpha**

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>Functional</th>
<th>Offline2</th>
<th>Thinking</th>
</tr>
</thead>
<tbody>
<tr>
<td>.923</td>
<td>.815</td>
<td>.631</td>
<td></td>
</tr>
</tbody>
</table>

As each of the new scales achieved a Cronbach’s Alpha above .5 and all three were either above or approaching .7, the new scales were adopted as the best predictive independent variables for the final OLS Regression analysis.

**Analysis / Defining the Variables**

Reiterating the research objectives: 1) Produce a quantifiable measure of consumer demand and (2) Define and prioritize the causal relationship between potential new product features and purchase intent and acknowledging the changes in both the dependent and independent variables, the new research objectives could be re-written to state:

1) Product a quantifiable measure of Purchase Intent and
2) Define and prioritize the causal relationship between three independent, highly reliable new product feature scales and Purchase Intent

A re-defined, statistically reliable and distinct set of new variables can now be regressed to produce a multiple regression equation and individual regression coefficients. This information continues to answer the research questions and senior management at The Healthy Living Company can confidently fill their information gap with actionable knowledge. The fact that some of the stated objectives have been redefined and modified is a common occurrence in market research and as long as the research questions and objectives are still being addressed, the analysis is continued.

**Analysis / Dependent Variable**

The dependent variable in this analysis is Purchase Intent an ordinal level “marker variable” for consumer demand. Purchase Intent captures the inherent motivation, or preference, for a product like VivaciousMe, but does not commit the respondent to a retail transaction. However, since the Consumer Demand variable was eliminated, Purchase Intent is now the proxy for Consumer Demand.

Q: “How strongly do you agree or disagree with the following statement? Personal wellness tools improve self-knowledge and enhance a person’s competence and capacity in proactively managing their health?”

<table>
<thead>
<tr>
<th>Purchase Intent</th>
<th>Frequency</th>
<th>Valid Percent</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>29</td>
<td>20.9%</td>
<td>20.9%</td>
</tr>
<tr>
<td>Agree</td>
<td>61</td>
<td>43.9%</td>
<td>64.7%</td>
</tr>
<tr>
<td>Neither Agree or Disagree</td>
<td>40</td>
<td>28.8%</td>
<td>93.5%</td>
</tr>
<tr>
<td>Disagree</td>
<td>7</td>
<td>5.0%</td>
<td>98.6%</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>2</td>
<td>1.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Missing</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>164</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note this variable is labeled Self Determination in SPSS*
The low number of responses in the “Disagree” and “Strongly Disagree” cells is noted, but wanting to maintain full variance, the collapsed variable was not included in the OLS Regression analysis.

**Analysis / Independent Variables**
There are three independent variables of interest: Functional, Offline2 and Thinking. All three are additive indexes produced to more accurately capture the direction, strength and explanatory power of the individual product features proposed by VivaciousMe. Held together by a strong Cronbach’s Alpha, all three scales were optimized through Factor Analysis and clustered into three groups to overcome the bicollinearity that was revealed through the Pearson’s R statistic in the Correlation Matrix (See SPSS output).

*To review:*
- The Functional index includes the following product attributes: comfortable enough for daily use, easy to read data, effortless operation, understated wearability, portability / mobility and a washable band. Cronbach’s Alpha = .923.
- The Offline2 index includes the following product attributes: a web-based social support network and access to life coaches. Cronbach’s Alpha = .815
- And, the Thinking index includes the two remaining product attributes tested: immediate access to metric output and personal software to manage metric tracking and evaluation. Cronbach’s Alpha = .631

**Analysis / Control Variables**
In addition to producing a quantifiable measurable of consumer demand and defining and prioritizing the causal relationship between potential new product features and purchase intent, the final analysis will seek to identify the direction, strength and explanatory power of (4) demographic variables on Purchase Intent: age, sex, level of education and household income.

**Analysis / State the OLS Regression Model**

*Unstandardized Regression Output – includes y-intercept*

\[
\text{Purchase Intent} = a + b_1(\text{Functional}) + b_2(\text{Offline2}) + b_3(\text{Thinking}) + b_4(\text{Age}) + b_5(\text{Sex}) + b_6(\text{Level of Education}) + b_7(\text{Household Income}) + \text{error}
\]

*Standardized Regression Output – does not have a y-intercept*

\[
\text{Purchase Intent} = b_1(\text{Functional}) + b_2(\text{Offline2}) + b_3(\text{Thinking}) + b_4(\text{Age}) + b_5(\text{Sex}) + b_6(\text{Level of Education}) + b_7(\text{Household Income}) + \text{error}
\]

**Analysis / Hypotheses**
There are four hypotheses in this analysis.

**Purchase Intent**
H1: People with a high level of Purchase Intent will be *more likely* to purchase a VivaciousMe product than those with a low level
H01: People with a high level of Purchase Intent will be *less likely* to purchase a VivaciousMe product than those with a low level, or will have *no difference* in purchase likelihood than those with low level.

**Functional Product Feature Preference:**
H2: People with a high level of Functional Product Feature preference will be *more likely* to purchase a VivaciousMe product than those with a low level
H02: People with a high level of Functional Product Feature preference will be less likely to purchase a VivaciousMe product than those with a low level, or will have no difference in purchase likelihood than those with low level.

Offline2 Product Feature Preference:
H3: People with a high level of Offline2 Product Feature preference will be more likely to purchase a VivaciousMe product than those with a low level
H03: People with a high level of Offline2 Product Feature preference will be less likely to purchase a VivaciousMe product than those with a low level, or will have no difference in purchase likelihood than those with low level.

Thinking Product Feature Preference:
H4: People with a high level of Thinking Product Feature preference will be more likely to purchase a VivaciousMe product than those with a low level
H04: People with a high level of Thinking Product Feature preference will be less likely to purchase a VivaciousMe product than those with low level, or will have no difference in purchase likelihood than those with a low level.

Analysis / OLS Regression Results
Inserting Purchase Intent as the dependent variable and Functional, Offline2, Thinking, Age, Sex, Level of Education and Household Income as the independent variables, an OLS Regression was run (See SPSS output). And, as demonstrated on the output pages, various scenarios were run to determine which combination of independent variables optimizes the explanatory power of the multiple regression model. What follows is a detailed analysis of those results.

Summary OLS Regression Table

<table>
<thead>
<tr>
<th>OLS Independent Variable Inputs</th>
<th>Adjusted R-Square</th>
<th>Durbin-Watson</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTO + Age + Educ + Sex + Inc</td>
<td>.218</td>
<td>1.674</td>
<td>p &lt; .000</td>
</tr>
<tr>
<td>FTO</td>
<td>.163</td>
<td>1.943</td>
<td>p &lt; .000</td>
</tr>
<tr>
<td>FTO + Educ</td>
<td>.171</td>
<td>1.939</td>
<td>p &lt; .000</td>
</tr>
<tr>
<td>FTO + Educ + Inc</td>
<td>.188</td>
<td>1.92</td>
<td>p &lt; .000</td>
</tr>
<tr>
<td>FTO + Age + Educ + Inc</td>
<td>.226</td>
<td>1.673</td>
<td>p &lt; .000</td>
</tr>
</tbody>
</table>

*Functional, Offline2 and Thinking Independent Variables = FOT
**Demographic Control Variables = Age, Level of Education (Educ), Sex, Household Income (Inc)

Note: The optimized multiple regression equation does not include the sex variable. While most of the demographic control variables will be shown to be statistically insignificant, they still added predictive strength to the overall Purchase Intent equation and therefore will remain in the final model. The only exception to this rule is the sex variable and given its statistical insignificance and reductive properties, it was left out of the optimized equation.

Optimized Multiple Regression Model Analysis

Headline Summary –

Unstandardized Multiple Regression Equation
Purchase Intent = .057 + .085(Functional) + .146(Offline2) - .029(Thinking) + .15 (Level of Education) - .083(Household Income) - .004(Age) + e.

Standardized Multiple Regression Equation
Purchase Intent = .376(Functional) + .262(Offline2) - .049(Thinking) + .192(Level of Education) – .146(Household Income) - .072(Age) + e.
The optimal Purchase Intent model for VivaciousMe has an Adjusted $R^2$ of .226, meaning that 22.6% of the variance in preference is explained by its calculation. A strong measure of explanatory power, this set of independent variables and their related regression coefficients represent a strong “goodness of fit” measure. *Note: the adjusted $R^2$ was used instead of the $R^2$ given the relatively small sample size and to minimize error in the final analysis.

The optimal preference model for VivaciousMe is statistically significant at the $p \leq .000$ level.

And, the Durbin Watson statistic is 1.673 indicating my independent variables are homoskedastic and reflect a range of values.

<table>
<thead>
<tr>
<th>Unstandardized Coefficients</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Statistical Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>.057</td>
<td>.611</td>
<td>.093</td>
<td>.926</td>
</tr>
<tr>
<td>Functional</td>
<td>.085</td>
<td>.028</td>
<td>.376</td>
<td>3.007</td>
</tr>
<tr>
<td>Offline2</td>
<td>.146</td>
<td>.056</td>
<td>.262</td>
<td>2.630</td>
</tr>
<tr>
<td>Thinking</td>
<td>-.029</td>
<td>.077</td>
<td>-.049</td>
<td>-.370</td>
</tr>
<tr>
<td>Household Income</td>
<td>-.083</td>
<td>.058</td>
<td>-.146</td>
<td>-1.437</td>
</tr>
<tr>
<td>Level of Education</td>
<td>.150</td>
<td>.072</td>
<td>.192</td>
<td>2.089</td>
</tr>
<tr>
<td>Age</td>
<td>-.004</td>
<td>.006</td>
<td>-.072</td>
<td>-.710</td>
</tr>
</tbody>
</table>

*Optimized Unstandardized Regression Coefficient Analysis*

- The constant, or “y intercept” is .057 but assumed to be an unreliable indicator of Purchase Intent given its statistical insignificance (B <2*Standard Error, p<.926). This is a key piece of information as the y-intercept was expected to demonstrate Purchase Intent, or that level of Purchase Intent when all the other independent variables are “0.”

*The Functional, Offline 2 and Thinking independent variables all work off of a 4-point scale of interest, with 1 = “Very Interested” and 4 = “Not Interested.”*

*Primary Variables of Interest*

- The Functional unstandardized regression coefficient is .085 and is statistically significant when shown to be greater than 2*(standard error of .028). This means that for every one-point change in the underlying Functional scale, Purchase Intent is impacted by +.085. This also implies that the Functional scale is very important as it seeks to keep the overall rating close to “1” or “Very Interested.”
- The Offline2 unstandardized regression coefficient says that for every 1-point change in the underlying 4-point scale of interest, the model changes by +.146. This variable is also very important and statistically significant as .146 is greater that 2(.056) or .112.
- The Thinking unstandardized regression coefficient, at -.029, is negatively correlated and is statistically insignificant with a standard error of .077. This B coefficient reduces the value of
the model by -.029 for every 1-point change in the underlying scale and given the fact it is
found to be statistically insignificant, it is generally assumed to be an unreliable indicator and
should not be trusted to have a real relationship with the dependent variable. It remains in the
optimized solution set because (1) it is a primary variable of interest and (2) removing it does
not improve the model’s R², or explanatory properties.

Control Variables:
- Household Income is tied to a 6-point scale with “1” representing “income under $30K” and
  “6” equal to “income over $250K.” In this analysis, the Household Income unstandardized
  regression coefficient is -.083 and is statistically insignificant with a standard error of .058.
  This means that the Household Income unstandardized coefficient is generally unreliable and
  should not be trusted to have a real relationship with our dependent variable. It remains in the
  optimized solution set because of its synergist explanatory power.
- Level of Education is measured on a 7-point scale with “1” = “Some High School” and “7” =
  “Masters, Doctorate, MD, JD or some other post-BA degree holder.” With an unstandardized
coefficient of .150 it passes the statistical significance test (.15 >2(.072)) and adds .150 to the
  model for every 1-point scale change in level of education. A statistic that speaks to the
  positive linear relationship between Purchase Intent and higher levels of education.
- Age was captured by each respondent’s individual response, meaning its underlying scale is
  interval and based in years. With an unstandardized regression coefficient of -.004 and a
  statistically insignificant B (-.004<2x(.006)), age is an unreliable indicator and should not be
  trusted to have a real relationship with the dependent variable. On the other hand, removing
  Age from the optimal solution set diminishes the model’s predictive ability; so it remains.
- The learning here is that despite several of the demographic control variables recording
  negative unstandardized regression coefficients and being statistically insignificant, there is a
  powerful cumulative power when this grouping is incorporated into the final regression
equation.

**Optimized Standardized Regression Coefficient Analysis**

Purchase Intent = .376(Functional) + .262(Offline2) - .049(Thinking) + .192(Level of Education) – .146(Household Income) - .072(Age) + e.

Standardized Regression Coefficients have been transformed so that all the variables are
expressed using the same metric – a standard scale where each variable has a mean of zero and a
standard deviation of one. Importantly, standardized coefficients make it possible to make a direct
comparison of the strength of the coefficients associated with the underlying independent
variables. We are now able to define and prioritize the causal relationship between potential new
product features and purchase intent.

<table>
<thead>
<tr>
<th></th>
<th>Standardized Coefficient</th>
<th>t</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional</td>
<td>.376</td>
<td>3.007</td>
<td>.003</td>
</tr>
<tr>
<td>Offline2</td>
<td>.262</td>
<td>2.630</td>
<td>.010</td>
</tr>
<tr>
<td>Thinking</td>
<td>-.049</td>
<td>-.370</td>
<td>.713</td>
</tr>
<tr>
<td>Household Income</td>
<td>-.146</td>
<td>-1.437</td>
<td>.154</td>
</tr>
<tr>
<td>Level of Education</td>
<td>.192</td>
<td>2.089</td>
<td>.039</td>
</tr>
<tr>
<td>Age</td>
<td>-.072</td>
<td>-.710</td>
<td>.479</td>
</tr>
</tbody>
</table>
The Functional, Offline 2 and Thinking independent variables all work off of a 4-point scale of interest, with 1 = “Very Interested” and 4 = “Not Interested.”

**Primary Variables of Interest**

- At +.376, the statistically significant (p<.003) Standardized Coefficient for the Functional independent variable indicates a positive linear relationship and a strong level of explanatory power. With every one point change in the underlying 5-point ordinal scale, the standardized solution increased by .376. Repeating its strength from the unstandardized regression coefficient analysis, including Functional Product Features appears to have the greatest positive impact on Purchase Intent.
- The Offline2 Standardized Coefficient is +.262 and is statistically significant with a p<.100. Exhibiting a positive linear relationship, this coefficient tells us that for every 1-point change in the underlying 5-point ordinal scale, the standardized solution increases by +.262. Offline2 Product Features rank second in priority and like the Functional Product Features, add to the expected Purchase Intent.
- The Standardized Coefficient for the Thinking variable is statistically insignificant at p<.713 and negatively correlated. Therefore it is a generally unreliable indicator and should not be relied upon to have a real relationship with the dependent variable. It remains in the optimized solution set because (1) it is a primary variable of interest and (2) removing it does not improve the model’s R², or explanatory properties.

**Control Variables**

- The Household Income Standardized Coefficient is -.146 and is statistically insignificant at p<.154. This means that knowing an individual’s approximate household income level would not be a good indicator of VivaciousMe Purchase Intent. However, it remains in the optimized standardized solution as its removal dilutes the predictive power of the equation.
- Level of Education(+.192 is the one demographic variable that is positively correlated and statistically significant at p<.039. A statistic that speaks to the positive linear relationship between Purchase Intent and higher levels of education.
- The Standardized Coefficient of Regression for Age is negative -.072 and statistically insignificant p<.479. And while it is included in the final solution set for its cumulative / associative strength, it is not a coefficient or variable that is considered a good indicator for Purchase Intent.

In summary, the variables of interest can be prioritized and rank ordered as follows:

1) Functional
2) Offline2
3) Thinking

The Healthy Living Company can now inform its product designers to focus on the Functional product features first (e.g., comfortable enough for daily use, easy to read data, effortless operation, understated wearability, portability / mobility and a washable band) and the Offline2 product features second (e.g., web-based social support network and access to life coaches). The Thinking product features (e.g., immediate access to metric output and personal software to manage metric tracking and evaluation) should not be a focus, but should remain in further research projects for additional insights.

As for the control variables, the demographic characteristics, Level of Education was once again the most informative predictor of Purchase Intent and may prove to be a core element of future marketing communication strategies. Household Income and Age were found to be unreliable
indicators of Purchase Intent but added to the synergist explanatory power of the demographic cluster.

**Does the Data Support the Hypotheses?**

*Using the Unstandardized Regression Coefficients to capture the “y-intercept”*

**Purchase Intent - NO**

H1: People with a high level of Purchase Intent will be *more likely* to purchase a VivaciousMe product than those with a low level  
H0: People with a high level of Purchase Intent will be *less likely* to purchase a VivaciousMe product than those with a low level, or will have *no difference* in purchase likelihood than those with low level.

- The constant, or “y intercept” is .057 but assumed to be an unreliable indicator of Purchase Intent given its statistical insignificance (B <2*Standard Error, p<.926). This means that we are unable to reject the Null Hypothesis and cannot claim that a higher level of Purchase Intent would lead to a retail purchase of VivaciousMe.
- However, this does not mean that Purchase Intent, or even Consumer Demand, should not be included in future research. On the contrary, one-way to view this result, and its related findings in other sections, is to recognize the difficulty of measuring actual behavior through a questionnaire. A better methodology moving forward may be an on-line simulated test market or, if financially an option, a regional test market.

*Using the Standardized Regression Coefficients to reflect variable comparisons within a common database*

**Functional Product Feature Preference: - YES**

H2: People with a high level of Functional Product Feature preference will be *more likely* to purchase a VivaciousMe product than those with a low level  
H0: People with a high level of Functional Product Feature preference will be *less likely* to purchase a VivaciousMe product than those with a low level, or will have *no difference* in purchase likelihood than those with low level.

- With a statistically significant unstandardized coefficient of +.376, I am able to demonstrate a positive relationship between people who value Functional Product Features and their level of Purchase Intent for VivaciousMe. Thus, I am able to reject the null hypothesis and support the research hypothesis that people with a higher level of Functional Product Feature will be more likely to purchase a VivaciousMe product than those with a low level of Functional New Product preference.
- By ruling rejecting the Null Hypothesis I am ruling out the possibility that the correlation we are observing might have occurred by chance.

**Offline2 Product Feature Preference: YES**

H3: People with a high level of Offline2 Product Feature preference will be *more likely* to purchase a VivaciousMe product than those with a low level  
H0: People with a high level of Offline2 Product Feature preference will be *less likely* to purchase a VivaciousMe product than those with a low level, or will have *no difference* in purchase likelihood than those with low level.

- With a statistically significant unstandardized coefficient of +.262, I am able to demonstrate a positive relationship between people who value Offline2 Product Features and their level of Purchase Intent for VivaciousMe. Therefore, I am able to reject the null hypothesis and
support the research hypothesis that a high level of Offline2 Product Features preference will be more likely to purchase a VivaciousMe product than those with a low level.

- By ruling rejecting the Null Hypothesis I am ruling out the possibility that the correlation I am observing might have occurred by chance.

**Thinking Product Feature Preference:** NO

H4: People with a high level of Thinking Product Feature preference will be *more likely* to purchase a VivaciousMe product than those with a low level

H04: People with a high level of Thinking Product Feature preference will be *less likely* to purchase a VivaciousMe product than those with low level, or will have *no difference* in purchase likelihood than those with a low level.

- With a statistically insignificant standardized coefficient of -.049, I am not able to reject the null hypothesis and therefore I must treat the Thinking Product Feature Preference variable as an unreliable indicator, a statistic that cannot be trusted to have a real relationship with the dependent variable.
- Additional research is recommended to further investigate this finding. One theory for its low rating comes from the wording of the product features themselves. Specifically, the use of the work “metric” may have biased the findings to the negative. This is especially true when you compare the strength of the Functional feature, easy to read, to the Thinking feature, immediate access to metric output.

**Control Variables:**

While I did not specify individual research hypotheses for the control variables, they were included to determine their level of influence over the model and for their future marketing communication insights. The ingoing assumption was that sex, age, household income and level of education would all provide some predictive power to the optimal regression solution. However, that assertion was proved wrong as each independent demographic characteristic was found to be statistically insignificant except level of education. Yet, it was also found that taken as a collective unit, with the exception of sex, the demographic control group added predictive power to the model.

The sex variable may prove additive once weighted for its bias toward female, at roughly 75% this may be skewing the data.

**Final Recommendation**

The purpose of this report is to provide senior management at The Healthy Living Company with accurate information and reliable direction on a key strategic resource allocation decision – “Whether or not to invest financial and intellectual capital against VivaciousMe, the first customizable, mobile biomedical device designed to optimize an individual’s biological resource utilization decision-making process.” Using an online survey as its data source, a new product concept test was launched to address both the descriptive research needed to measure the proportion of the population expected to use the new product (product demand) and the causal research needed to define the cause and effect relationship between the various product features available. Fortified with this information, senior management can now evaluate the market opportunity for VivaciousMe and accurately direct its biomedical engineers to design a consumer-driven prototype for future research. A key step in the new product development process, senior management at The Healthy Living Company now has in its possession the quantifiable decision-making variables it needs to move forward in their strategic marketing process.
Consumer Demand
Consumer demand, as originally defined, proved difficult to quantify. In addition to the constraints inherent to an on-line new product concept test, the questionnaire structure was not optimized and the specific question put too much focus on the actual retail purchase versus the consumer-driven demand. However, consumers still responded with a 13% Top-2 Box score rating and approximately 65% of survey participants reported they “might - probably – or would” buy VivaciousMe if available. Additionally, the survey had a strong “market variable” in Purchase Intent that would serve as a reliable Consumer Demand proxy for the remainder of the research project.

Purchase Intent and New Product Features
Acting as the proxy for consumer demand, the Purchase Intent variable was able to produce an optimized predictive relationship between 10 proposed new product features and an individual’s internal motivation to purchase a VivaciousMe. This simple causal equation is invaluable to senior management. Using the standardized regression equation as its touchstone, senior management can see that:

\[
\text{Purchase Intent / Consumer Demand} = 0.376(\text{Functional}) + 0.262(\text{Offline2}) - 0.049(\text{Thinking}) + 0.192(\text{Level of Education}) - 0.146(\text{Household Income}) - 0.072(\text{Age}) + e.
\]

They now have a statistically credible management tool, an equation that can facilitate product specific decision-making and corporately driven resource allocation commitments.

Recommended Next Steps
There appears to be sufficient consumer-driven demand to move forward in the new product development process of VivaciousMe. Using the information gathered in the concept test, senior management should move forward with a design focus on key functional product features and a marketing emphasis on building a supporting social network site with access to life coaches. Additional research on the Thinking features is recommended, as there appears to be a questionnaire-barrier between the respondent’s willingness to use a personal wellness tool to manage their health and their rejection of the actual metric output and software required to do so.

Future Research
Once the new VivaciousMe prototype is complete, another round of consumer research is recommended. Acknowledging the limitations of the first round of concept testing, senior management should evaluate multiple research techniques, ranging from another on-line survey to a physical test market in a statistically reliable market. The team should also recognize the importance of finding the optimal operational metric for the concepts of interest. And, pre-test any survey prior to full disclosure. The new research plan will obviously reflect the team’s specific research questions and objectives, but in addition to the statistically credible management tool, this research also provided an invaluable lesson in the construction of knowledge; just as VivaciousMe is evolving with each new design element, the research to support its ultimate success should progress and improve with each new piece of learning. Senior management at The Healthy Living Company should view market research as the bioelectrical energy source for VivaciousMe, the tool to optimize their new product’s market “wellness.”